Results: Mean number of PTZ injections needed for kindling significantly decreased from 13.1 ± 1.6 in sham-treated animals to 7.1 ± 0.34 in traumatic rats ($p<0.05$). Systemic LPS preconditioning 5 days before traumatic brain injury reversed accelerating effect of TBI on the rate of PTZ-kindling ($p<0.05$).

Conclusion: TBI accelerates speed of PTZ kindling in rats. LPS preconditioning prevents the effect of TBI on PTZ kindling. LPS preconditioning reduces massive microglia activation and consequent release of inflammatory and cytotoxic factors by TBI.

Keywords: pentylenetetrazole kindling ,traumatic brain injury,Lipopolysaccharide preconditioning

The effect of caffeine on sleep lose-induced deficit in Spatial learning and memory of female rats

Subject: Learning and Memory

Khadijeh Esmaeilpour bezenjani[1], Vahid Sheibani[2], Hakimeh Saadati[3], yaser masoumi-ardakani[4]

1. Neuroscience Research Center, Institute of Neuropharmacology, Kerman University of Medical Sciences, Kerman, Iran
2. Neuroscience Research Center, Institute of Neuropharmacology, Kerman University of Medical Sciences, Kerman, Iran
3. Neuroscience Research Center, Institute of Neuropharmacology, Kerman University of Medical Sciences, Kerman, Iran
4. Physiology Research Center, Institute of Neuropharmacology, Kerman University of Medical Sciences, Kerman, Iran

Background and Aim: Previous studies have shown that caffeine has beneficial effects on cognitive impairment in sleep deprived male rats. Therefore in the present study, we examined the effects of chronic caffeine administration on learning and memory impairment induced by sleep deprivation (SD) in the intact and ovarectomized female rats.

Methods: Multiple platform method was used for SD induction. Spatial learning and memory were determined using Morris water maze (MWM) task.

Results: Our results indicated that sleep deprivation impaired spatial learning in ovariectomized and spatial memory in both OVX and intact female rats ($p<0.05$). Therefore, caffeine administration (4weeks) improved these impairments.

Conclusion: In conclusion, the data showed that caffeine traetment protect against cognitive impairment induced by SD in female rats.

Keywords: learning and memory ,sleep deprivation ,caffein,female rats